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ABSTRACT

This paper reports briefly on a program aimed at preventing the educational disadvantagement of young children through (1) the identification of preschool and kindergarten children who displayed deficits in general cognitive ability; (2) the development of a half-day program providing individually prescribed instruction to each of these children in terms of his/her area of weakness; and (3) the establishment of parent-education workshops. Fourteen children were selected for the program on the basis of recommendations and test scores. University staff members helped teachers and aides select appropriate materials and equipment, establish individual prescriptions, and set up an overall plan for the program. At the end of the 4-month program, all children were post-tested, and results indicated significant improvement. Questions are raised about long-term effects of such instruction and the generality of these findings. (SB)

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INDIVIDUAL INTERVENTIONS FOR DISADVANTAGED PRE-KINDERGARTEN AND KINDERGARTEN CHILDREN: A MODEL PROJECT

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Historically, ten to fifteen per cent of the children in our schools experience excessive academic difficulty. These are children who are of average or above average measured intelligence and yet, perform one year or more below their grade level. The school has traditionally attempted to meet the needs of these children through special programs designed to remediate their deficits. While this has proved to be of some benefit to most of the children, we have learned that the most difficult factor to overcome is the "set" for failure. Underachievers appear to underestimate themselves and perpetuate behaviors which only serve to produce further failure. Not only does the failure compound itself, but often negative classroom behaviors develop.

Educators and psychologists have certain techniques and assessing devices available now in order to evaluate children's abilities at a very early age. If we have the instruments to help us detect present and or potential areas of weakness or strength then it appears only reasonable that we should direct our energies towards a more preventative program. We must identify these educationally relevant areas and determine how we can best intervene before the emotional damage or repeated failures can occur. We need to devise educational programs for children which take into account both their strong and weak areas before they enter school.

During the past several years, research evidence has been accumulated concerning the importance of early childhood experiences in determining the ultimate success or failures of the child both academically and behaviorally in school. Bloom (1964), Hunt (1961), Coleman (1966), White (1973)and others have strongly indicated that much of the child's

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learning potential is developed during the preschool and kindergarten period as a result of home experiences.

Coleman states:

> Altogether the sources of inequality of educational opportunity appear to lie first in the home itself and the cultural influences immediately surrounding the home; then they lie in the school's ineffectiveness to free achievement from the impact of the home, and in the school's cultural homogeneity which perpetuates the social influences of the home and its environs.

One answer may lie in the early identification of children with inadequate preparation for school-like tasks and the implementation of programs structured to meet their individual needs.

The purpose of this project was the prevention of educational disadvantagement of young children. This was accomplished through the following objectives:

1. The identification of kindergarten and pre-kindergarten children who were performing below average on educationally relevant areas of development such as language development, motor skills, perceptual skills, memory skills and quantitative ability, as measured in a testing procedure.

2. The development of a half-day classroom program for the children identified as educationally disadvantaged according to the above criteria. This program was designed to provide individually prescribed instruction to each child in terms of his area of weakness.

3. The establishment of parent-education workshops in order to enhance the parents' understanding of the following:

   a. Social and emotional development of children
   b. Behavior management techniques in the home
   c. Educational techniques in the home.

Procedure

A group of thirty children between the ages of four and six were selected based upon parental and teacher request. All were tested using the

McCarthy Scales of Children's Abilities. This test yields a measure of general cognitive ability and also provides subtest measures of verbal, perceptual-performance, quantitative, memory, and motor skills. Based on their performances on this measure, and prior parental consent, fourteen children were selected for inclusion in the experimental program. Seven of these children were preschool children and seven were presently enrolled in regular kindergarten classes. These children displayed the greatest deficits in functioning and were judged most likely to benefit from this program. Test scores of these children were analyzed to determine areas of relative strength and weakness.

The staff of the Kent State University Early Childhood Education Department worked directly with the teacher, aide, and psychologist. Consultation was provided in selection of appropriate materials and equipment, selection of arrangement and setting of classroom equipment, planning of the daily schedule, and development of individual prescriptions and overall plan of the program.

Prescriptions were based on analysis of the McCarthy test, and children were grouped on the basis of common remedial need. There were five children in the verbal and quantitative groups, six in the perceptual group, and seven in the memory and motor groups. Within the group children worked at their own pace and according to their own level of development. The program was highly structured within these limits, however. Children worked exclusively on tasks designed to remediate deficits. When not involved in remedial activities, the children worked on regular classroom programs including story time, show and tell and free play.

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Parent participation included involvement in four workshops covering the following topics: social and emotional development in children, behavior management techniques to establish or change behaviors, and emplo ment of educational activities in the home to encourage learning. Parents were provided with handout material designed to facilitate workshop experiences and to encourage reinforcement of school instruction at home.

The program was approximately four months in duration.

Results

All children were post-tested, again using the McCarthy Scales of Children's Abilities. The mean pre-test score obtained by pre-kindergarten children was 86.0 while the mean post-test score was 99.0. This difference was statistically different at the .05 level.

insert table 1 about here

Table 1 presents pre-and post subtest and total scores for each pre-kindergarten child on the McCarthy Test. Examination indicates that mean subtest scores increased in every case except quantitative performance.

insert table 2 about here

Table 2 presents pre-and post-test McCarthy scores for the kindergarten children. Examination indicates an increase in mean general cognitive scores from 75.3 to 86.2. This difference is statistically significant at the .01 level. Mean subtest scores also increased in all cases.

Table 1

INDIVIDUAL AND MEAN SCORES OF PRESCHOOL CHILDREN
ON THE McCARTHY SCALES OF CHILDREN'S ABILITIES

Subject	Verbal		Perceptual Performance		Quantitative		Memory		Motor		General Cognitive	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	38	46	41	53	36	35	36	42	53	61	78	93
2	55	49	38	53	42	40	47	47	31	42	86	97
3	39	54	49	45	43	38	32	43	42	49	89	95
4	45	52	47	43	36	44	30	45	44	45	89	96
5	43	47	44	48	50	50	38	52	40	47	91	95
6	41	56	38	59	44	44	51	57	35	39	84	109
7	55	43	25	33	42	37	49	43	45	43	85	78
Means	46.1	49.6	40.3	47.7	41.9	41.1	40.4	47.0	41.4	46.6	86.0	99.0

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Table 2

INDIVIDUAL AND MEAN SCORES OF KINDERGARTEN CHILDREN
ON THE McCARTHY SCLAES OF CHILDREN'S ABILITIES

Subject	Verbal		Perceptual Performance		Quantitative		Memory		Motor		General Cognitive	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	51	51	31	43	38	46	42	54	35	45	83	96
2	39	46	40	40	44	43	42	45	49	48	82	88
3	45	45	41	43	39	42	30	35	48	54	86	88
4	42	42	46	58	45	50	50	52	35	47	89	98
5	22	40	31	44	22	30	22	31	31	38	50	78
6	48	47	27	32	39	36	44	46	36	47	76	78
7	26	35	37	55	24	31	27	35	30	49	61	78
Means	39.0	43.7	36.1	45.0	35.9	39.7	36.7	42.6	37.7	46.8	75.3	86.2

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Given that remediation attempts were directly based on specific deficit areas as measured by the McCarthy, improvements in each of these areas would be expected.

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insert table 3 about here

Table 3 presents a comparison of the pre-and post-test scores for all children in each treatment group. Examination indicates that mean subtest scores increased in all cases.

The Metropolitan Reading Readiness Test was given to all kindergarten children in the school system. Prior to participation, children selected for the experimental program obtained scores significantly lower than the scores of those children remaining in the regular kindergarten program. Mean score for the experimental group was 75.3 compared to a mean score of 91.5 for the control group. Metropolitan scores obtained after exposure to the remedial program were not significantly different from this control group, however. Mean score of the experimental group was 53.7 mean score for the control group 52.5.

Preschool children were administered the ABC Readiness Test, a measure related to kindergarten readiness. The mean post-experimental program score for this group was 88, indicating school readiness.

Discussion

Results strongly suggest that specific prescriptive interventions can attenuate deficiencies in many areas of functioning experienced by preschool and kindergarten children. It is not known, however, if such

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Table 3

ANALYSIS OF CHILDREN'S PRE-AND POST-TEST SCORES ON
THE McCARTHY SCALES OF CHILDREN'S ABILITIES BY DEFICIT GROUP

Deficit Group									
Verbal		Perceptual Performance		Quantitative		Memory		Motor	
Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
39	46	31	43	24	31	30	35	40	47
39	54	40	40	36	44	36	42	36	47
42	42	38	53	36	35	32	43	35	47
22	40	27	32	24	31	30	45	31	42
26	35	38	59	39	42	27	35	35	45
		25	33			22	31	30	49
						38	52	35	39
Means 33.6	43.4	33.1	43.3	31.8	36.5	30.7	40.0	34.5	45.1

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gains can be maintained in the absence of continued specialized remediation. Follow-up studies will best answer the question.

The generality of these results is also restricted by the small sample used and the method of subject selection utilized. It is possible that children with less serious deficits might not benefit equally from such a program.

It is also difficult to assess the relative contribution of parental training to improvement in child functioning. Workshop topics were not specifically related to school interventions, but were related to more general topics; behavior modification in the home and child development topics, intended to increase parental effectiveness in child rearing. More specific coordination of school and home activity might have produced effects of greater magnitude.

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